

National Weather Service Grand Forks



Weather & Climate Review

May-June 2020



May

	AveT	TDept	Pcpn	PDept	Snow
DVL	51.9	-4.1	0.77	-1.70	M
NWS GF	53.4	-2.4	1.23	-1.52	T
FAR	54.7	-2.4	1.47	-1.34	0.0
BDE	51.5	-1.0	1.15	-1.67	M
PKD	52.0	-1.8	0.75	-2.35	M

Table 1 May 2020 Temperature and Precipitation Statistics

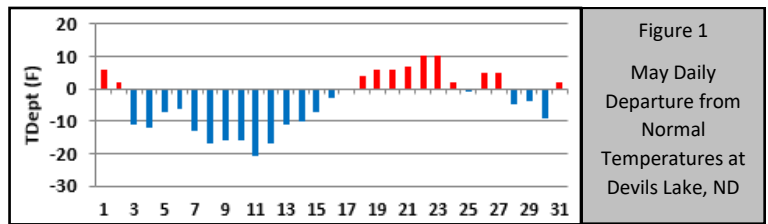


Figure 1
May Daily
Departure from
Normal
Temperatures at
Devils Lake, ND

Blue Bars = Colder than Normal Days & Red Bars = Warmer than Normal Days

Table 1 shows the May average temperature (AveT), departure from normal temperature (TDept), precipitation (Pcpn), departure from normal precipitation (PDept), and snowfall (Snow) for our 5 main climate sites (Devils Lake (DVL), NWS Grand Forks (NWS GF), Fargo (FAR), Baudette (BDE), and Park Rapids (PKD)). The May average temperature was colder than normal at all sites, but coldest at Devils Lake (-4.1 degrees). Precipitation amounts were below normal at all sites. Figure 1 plots the daily departure from normal temperatures in May 2020 at Devils Lake, ND. This graphic shows the temperature swings throughout the month. However, most of the first half of May was well below normal.

Records No new records were set in May 2020 at Fargo, ND.

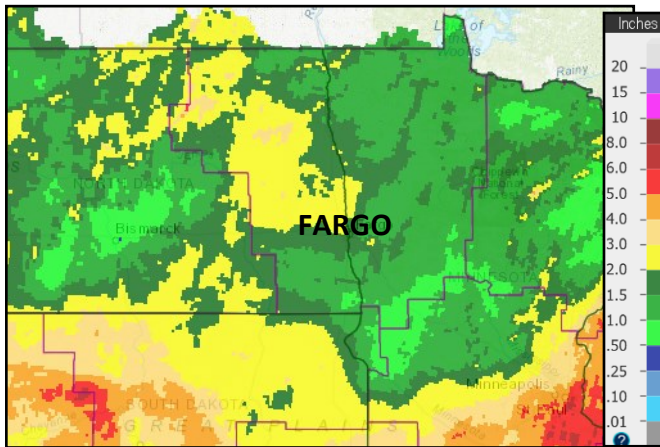


Figure 2 May Observed Precipitation

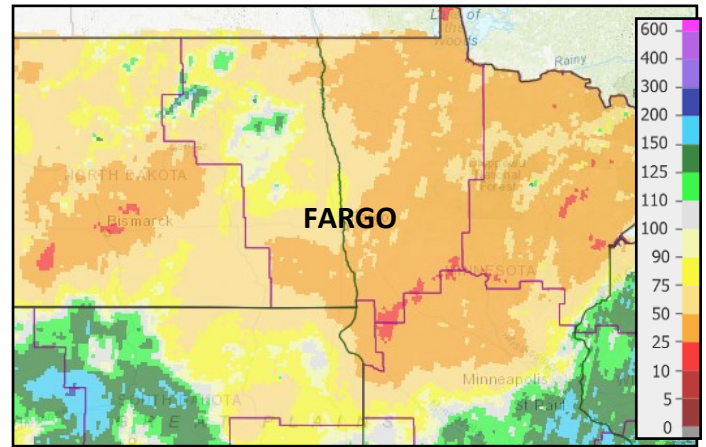
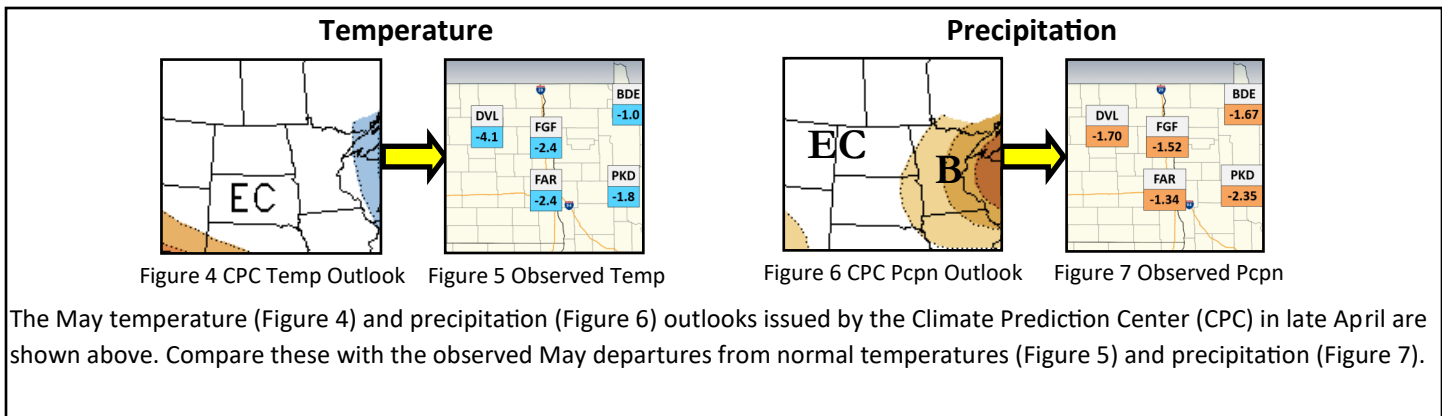


Figure 3 May Percent of Normal

Table 1 only gives observed precipitation for 5 sites, which does not cover much of eastern North Dakota and the northwest quarter of Minnesota. Therefore Figure 2 is included, which gives an estimate for the entire area. Looking at the color scale on the right of Figure 2, most of eastern North Dakota and the northwest quarter of Minnesota received 0.50 to 2 inches of precipitation (green colors). A little more precipitation fell from Cando to Lakota to Cooperstown (yellow color, or 2 to 3 inches of precipitation). Figure 3 shows the May precipitation as a percent of normal. This makes it easier to see how nearly the entire area had below normal precipitation in May.



6 Month Trend

Looking at just the Fargo climate site (FAR), Figures 8 and 9 show how May 2020 fits into the previous 5 months. Figure 8 plots the monthly departures from normal temperatures at Fargo. The blue bars represent months that were colder than normal, while the red bars represent months that were warmer than normal. Figure 9 plots the monthly departures from normal precipitation at Fargo. The green bars represent months that were wetter than normal, while the brown bars represent months that were drier than normal.

Figure 8 shows that the last four months have ended with either normal or below normal temperatures. Four of the past six months have had below normal precipitation amounts (Figure 9).

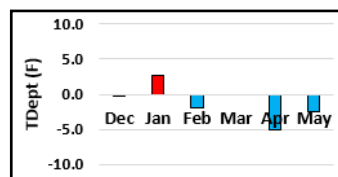


Figure 8 Monthly Departures from Normal Temps at Fargo, ND

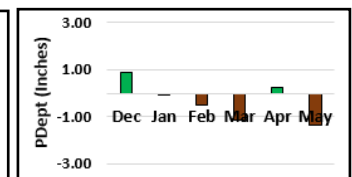


Figure 9 Monthly Departures from Normal Pcpn at Fargo, ND

Convective Warnings

No Severe Thunderstorm or Tornado Warnings were issued in May 2020.

Red Flag Warnings

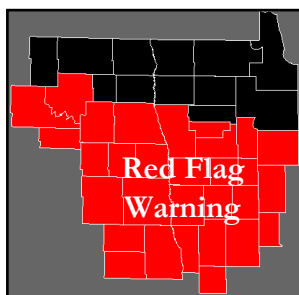


Figure 10 May 2 Red Flag Warning

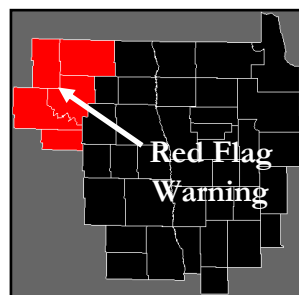


Figure 11 May 18 Red Flag Warning

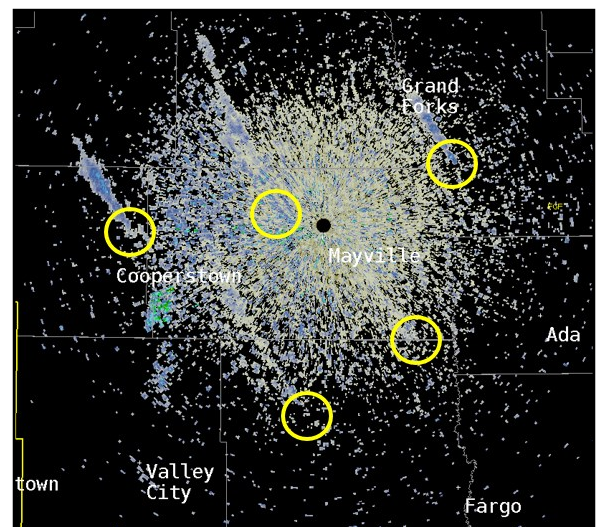


Figure 12 May 19th Smoke Plumes

The first few days of May 2020 were relatively mild and dry. May 2nd was also fairly windy, which led to a Red Flag Warning (dangerous fire weather conditions) for the southern two-thirds of the area (Figure 10). Less burning occurred during the cool period from May 3rd to May 16th (see Figure 1 on Page 1). As temperatures warmed again after May 17th, burning really picked up again. A user requested Red Flag Warning was issued for the Devils Lake region on May 18th (Figure 11). Hundreds of fires could be seen on "Hot Spot" satellite imagery during this period, and the Mayville radar also detected numerous smoke plumes (Figure 12).

June

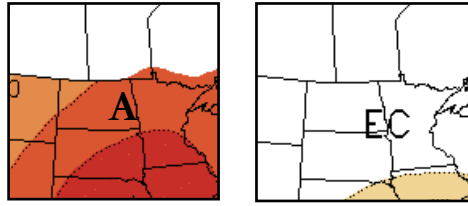


Figure 13 Temperature Figure 14 Precipitation

The latest Climate Prediction Center (CPC) temperature (Figure 13) and precipitation (Figure 14) outlooks for June are shown to the left. For eastern North Dakota and the northwest quarter of Minnesota, the CPC is forecasting higher probabilities for above normal temperatures. For precipitation, the CPC is forecasting equal chances for above, normal, or below normal precipitation.

Last Year & Normals

June 2019 was slightly cooler and wetter than normal at Devils Lake, while the other 4 climate sites (NWS Grand Forks, Fargo, Baudette, and Park Rapids) were slightly warmer and drier than normal (Table 3). The warmest summer temperature occurred on June 7, 2019. Devils Lake hit 93 degrees, NWS Grand Forks and Fargo 96 degrees, and Baudette and Park Rapids topped out at 91 degrees. During June 2019, there were nine days when Severe Thunderstorm Warnings were issued (Figure 15). June 29th and 30th were busy back-to-back warning days.

	AveT	TDept	Pcpn	PDept	Snow
DVL	63.9	-0.9	4.71	0.70	M
NWS GF	66.6	1.3	2.94	-0.80	0.0
FAR	67.1	0.9	3.61	-0.29	0.0
BDE	62.8	1.0	2.92	-1.14	M
PKD	63.8	1.2	4.04	-0.16	M

Table 3 June 2019 Temperature and Precipitation Statistics

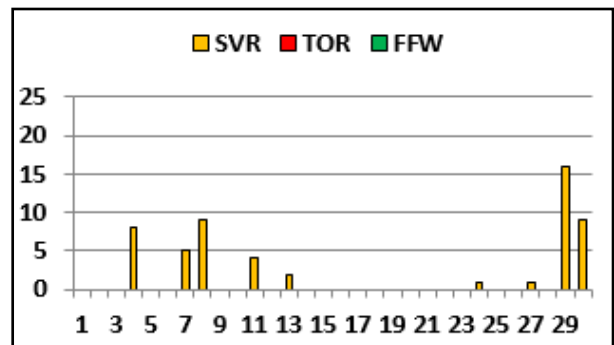


Figure 15 June 2019 Convective Warnings

So what are normal temperatures in June? Figure 16 shows normal highs and lows on June 1st for selected cities across eastern North Dakota and northwest Minnesota. Figure 17 shows how normal highs and lows change by June 30th. As an example, at NWS Grand Forks on June 1st, the normal high is 73 and the normal low is 49. By June 30th at NWS Grand Forks, the normal high rises to 80 and the normal low rises to 58. Figure 18 shows the normal precipitation amounts at the same sites as Figures 16 and 17. As an example, the normal precipitation at NWS Grand Forks in June is 3.74 inches.

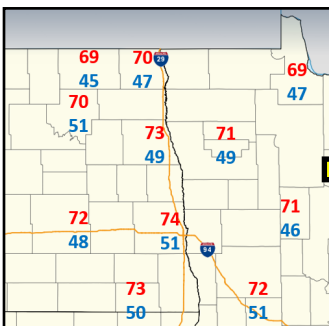


Figure 16 Normal Temps June 1

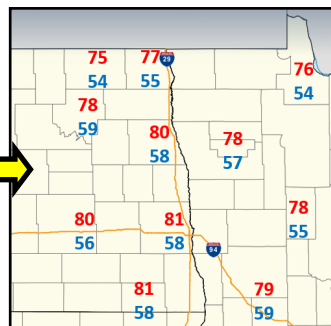


Figure 17 Normal Temps June 30

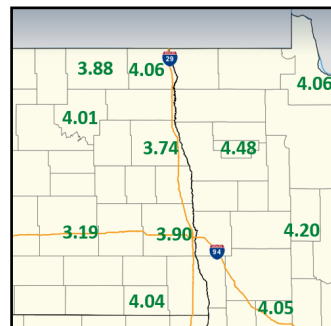


Figure 18 Normal June Pcpn

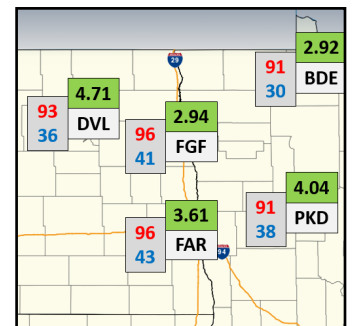


Figure 19 June 2019 Data

As a comparison to normal values, Figure 19 shows various observed data from last year (2019). As an example, in Fargo (FAR), 3.61 inches of precipitation (green box) fell. The highest temperature was 96 degrees (red number), while the lowest temperature was 43 degrees (blue number).

Miscellaneous

The winning picture in our May photo contest was a baby deer, taken by Melissa Johnson (Page 1, top right). Numerous fires were observed across eastern North Dakota and northwest Minnesota in May 2020 (see Figure 12 on Page 2 as an example). This may be due to the numerous cornfields that could not be harvested last fall, due to the above normal rainfall (Figure 20) and early October snowfall. Since many of these fields were not harvested, the standing corn caught a lot of winter snow (Figure 21). As of late May 2020, some of this corn still stood (Figure 22), and farmers were trying to find ways to get into these fields. Figure 23 shows a pump draining a tiled field near Arvilla, ND. If you look closely, the corn field behind the pump has been burned, yet there is still plenty of water below ground getting pumped out. Many farmers decided to burn the corn stalks and debris left in their fields, so the fields could dry out (Figure 24). Hundreds to thousands of small fires could be seen on National Weather Service “Hot Spot” satellite imagery and Doppler radar. Another such fire was observed near Thompson, ND (Figure 25).



Figure 20 Fall 2019 Cornfield Near Arvilla, ND



Figure 21 February 2020 Cornfield Near Arvilla, ND



Figure 22 May 27, 2020 Cornfield Near Arvilla, ND



Figure 23 May 27, 2020 Drain Tile Pump Near Arvilla, ND



Figure 24 May 31, 2020 Burning Cornfield Near Buxton, ND



Figure 25 May 27, 2020 Burning Cornfield Near Thompson, ND